

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (cancel)

Claim 2 (cancel)

Claim 3 (cancel)

Claim 4 (previously amended) An in-situ pile apparatus comprising:

- a) a lowermost helical anchor;
- b) a plurality of hollowed pile sections that are connectable end to end, a lowermost of the pile sections being connectable to the helical anchor;
- c) an internal drive system that is comprised of a plurality of sections that are connectable end to end and which fit inside of the hollowed pile sections, the drive including enlarged members that fit at the joints between respective pile sections; and
- d) wherein each of the pile sections carries circumferentially spaced radially extending soil displacement ribs.

Claim 5 (previously amended) An in-situ pile apparatus comprising:

- a) a lowermost helical anchor;
- b) a plurality of hollowed pile sections that are connectable end to end, a lowermost of the pile sections being connectable to the helical anchor;
- c) an internal drive system that is comprised of a plurality of sections that are connectable end to end and which fit inside of the hollowed pile sections, the drive including enlarged members that fit at the joints between respective pile sections; and

Appl. No. 09/993,321
Amdt. dated May 20, 2004
Reply to Office action of November 21, 2003

d) wherein the internal drive is hollow and further compromising a rod that extends longitudinally through the hollow interior of the internal drive.

Claim 6 (previously amended) A method of installing a piling system comprising the steps of:

- a) thrusting a helical anchor into the earth;
- b) connecting multiple pile sections to the helical anchor, each of the pile sections having squared end portions that are connectable with respective other squared end portions of other pile sections to define one or more joints;
- c) driving the anchor and pile sections with an internal drive that includes a plurality of longitudinally extending end to end connected drive members, and wherein the internal drive includes enlarged drive members that are placed at spaced apart positions and which fit the joint between pile sections, registering at provided squared end portions of connected pile sections.

Claim 7 (original) The method of claim 6, wherein each of the pile sections is shaped to connect to another pile section at a joint with a combined configuration that transmits torque and further comprising generating torque with the internal drive and transferring torque to the pile sections via the joints.

Claim 8 (original) The method of claim 6, wherein in step “b” each pile section has at least one squared end portion, and the squared end portions are jointed together.

Claim 9 (original) The method of claim 6, further comprising the step of filling the bore of a pile section with a filler material.

Claim 10 (cancel)

Claim 11 (cancel)

Claim 12 (cancel)

Appl. No. 09/993,321
Amdt. dated May 20, 2004
Reply to Office action of November 21, 2003

Claim 13 (cancel)

Claim 14 (cancel)

Claim 15 (cancel)

Claim 16 (original) An in-situ pile apparatus comprising:

- a) a lowermost helical anchor that is configured to be driven into a soil mass;
- b) a plurality of hollowed pile sections that are connectable at joints that have open bores, a lowermost of the hollowed pile sections being connectable to the top of the anchor;
- c) an internal drive system that is comprised of a plurality of sections that are connectable and which fit inside of the hollowed pile sections, the drive system including enlarged sections that snugly fit the open bore of the joints between respective pile sections.

Claim 17 (previously amended) The apparatus of claim 16, wherein the enlarged section is a solid structure that occupies a joint open bore during use.

Claim 18 (original) The apparatus of claim 17 wherein the pile sections have end portions that are shaped to fit the end portion of another pile section in telescoping fashion.

Claim 19 (original) The apparatus of claim 16 wherein each of the pile sections carries a plurality of circumferentially spaced radially extending soil displacement ribs.

Claim 20 (original) The apparatus of claim 1 wherein the internal drive system includes a rod that extends longitudinally through each pile section and enlarged drive members placed at intervals along the rod, the enlarged drive members occupying the joint bores during use.

Claim 21 (original) A multi-section pile apparatus, comprising:

- a) a lowermost anchor that is configured to be driven into a soil mass by rotation, the anchor having a helically threaded portion;

- b) a plurality of pile sections that are connectable end-to-end at joints, the pipe sections and joints having hollow bores, a lowermost of the pile sections being connectable to the top of the anchor.
- c) an internal drive that fits inside of the pile sections, the drive including enlarged sections that snugly fit the bores of the joints between respective pile sections, each joint being occupied by an enlarged section of the drive; and
- d) wherein the enlarged section and the joints are configured with non-annular surfaces that enable torque to be transmitted from the drive to the pile sections.

Claim 22 (previously amended) The apparatus of claim 21, wherein each enlarged section is a solid structure that occupies a hollow bore during use.

Claim 23 (original) The apparatus of claim 22 wherein the pile sections have end portions that are shaped to fit the end portion of another pile section in telescoping fashion.

Claim 24 (original) The apparatus of claim 23 wherein each of the pile sections carries a plurality of circumferentially spaced radially extending soil displacement ribs.

Claim 25 (original) The apparatus of claim 21 wherein the internal drive system includes a rod that extends longitudinally through each pile section and enlarged drive members placed at intervals along the rod, the enlarged drive members occupying the joint bores during use.

Claim 26 (original) A multi-section pile apparatus, comprising;

- a) a lowermost anchor that is configured to be driven into a soil mass by rotation, the anchor having a helically threaded portion;

- b) a plurality of pile sections that are connectable end-to-end at joints, the pipe sections and joints having hollow bores, a lowermost of the pile sections being connectable to the top of the anchor;
- c) an internal drive that fits inside of the pile sections, the drive including enlarged sections that snugly fit the bores of the joints between respective pile sections, each joint being occupied by an enlarged section of the drive;
- d) wherein the enlarged section and the joints are configured with non-annular surfaces that enable torque to be transmitted from the drive to the pile sections; and
- e) the lower end portion of the drive having a connector that enables a connection to be made between the lower end portion of the drive and an upper end portion of the anchor.

Claim 27 (previously amended) The apparatus of claim 26, wherein each enlarged section is a solid structure that occupies a hollow bore during use.

Claim 28 (original) The apparatus of claim 27 wherein the pile sections have end portions that are shaped to fit the end portion of another pile section in telescoping fashion.

Claim 29 (original) The apparatus of claim 26 wherein each of the pile sections carries a plurality of circumferentially spaced radially extending soil displacement ribs.

Claim 30 (original) The apparatus of claim 26 wherein the internal drive system includes a rod that extends longitudinally through each pile section and enlarged drive members placed at intervals along the rod, the enlarged drive members occupying the joint bores during use.

Claim 31 (original) A multi-section pile apparatus, comprising:

- a) a lowermost anchor that is configured to be driven into a soil mass by rotation, the anchor having a helically threaded portion;

Appl. No. 09/993,321
Amdt. dated May 20, 2004
Reply to Office action of November 21, 2003

- b) a plurality of pile sections that are connectable end-to-end at joints, the pipe sections and joints having hollow bores, a lowermost of the pile sections being connectable to the top of the anchor;
- c) an internal drive that fits inside of the pile sections, the drive including enlarged sections that snugly fit the bores of the joints between respective pile sections, each joint being occupied by an enlarged section of the drive;
- d) wherein the enlarged section and the joints are configured with non-annular surfaces that enable torque to be transmitted from the drive to the pile sections;
- e) the lower end portion of the drive having a connector that enables a connection to be made between the lower end portion of the drive and an upper end portion of the anchor; and
- f) the combination of pile sections and joints being continuously hollow so that fill material added to the uppermost pile section enables all of the pile sections to be filled with fill material.

Claim 32 (original) The method of claim 31 further comprising water barrier pipe means that span between a soil line and a water surface during use, mounted on the upper end of the assembled pile sections.